

Claims 1-23 are pending and under consideration in the present application. In the outstanding official action, Claims 1-23 were rejected under 35 USC §102(e) as unpatentable over Saito (U.S. 6,100,570).

Briefly recapitulating, the present invention relates to a semiconductor device having an SOI structure. In a non-limiting example, the SOI structure includes a semiconductor substrate, a buried insulation layer and an SOI layer. Plural device formation regions may be provided in the SOI layer; a body region provided in the SOI layer is capable of externally fixing an electric potential; and isolation regions are provided, each including a partial isolation region having a partial insulation region formed in an upper part thereof and a semiconductor region formed in a lower part thereof (see for example the first aspect of the invention described in the specification at page 2 line 15 to page 3 line 1). The present invention overcomes various problems resulting from a floating-substrate effect (see the specification at page 2, line 7 to line 12).

With respect to the rejection of Claims 1-23 under 35 USC §102(e) as unpatentable over Saito (U.S. 6,100,570) in the outstanding official action, the official action fails to show the partial isolation region of the present invention (see the final paragraph of Claim 1 “wherein at least part of said at least one isolation region includes a partial isolation region having a partial insulation region formed in an upper part thereof and a semiconductor region formed in a lower part thereof...”). The rejection of Claims 1-23 under 35 USC §102(e) is therefore respectfully traversed.

Nothing corresponding to a partial isolation region can be found in any of the figures or text relied upon by the Office Action in Saito, or employed anywhere else in the Saito reference. Indeed, Saito clearly shows the insulation layer relied upon for isolation extending the full depth of the SOI layer (see, for example, in Fig. 3 of Saito relied upon in the Office

Action, that the oxide film 34 extends the full depth of the silicon film 33, and note in column 8, line 31 to line 34 Saito states “at that time, a LOCOS oxide film 34 for separating elements which is adjacent from a sensing diffusion region – type layer 35 is formed so that *its lower part reaches a SiO₂ film 32*” (*emphasis added*)). In contrast to the structure in Saito, in Fig. 2 of the present application, as one example, a partial oxide film 31 does not extend to the bottom of SOI layer 3, as discussed on page 33 at lines 6 to 18.

Pending Claims 2-5 and 7-22 are dependent upon Claim 1, and therefore the rejection of these claims is moot if pending Claim 1 is allowable.

Pending Claim 23 also includes a limitation of a partial isolation region having a partial insulation region (see lines 14-16 “...said peripheral isolation region including a partial isolation region having a partial insulation region formed in an upper part thereof and a semiconductor region formed in a lower part thereof...”), and therefore the rejection of pending Claim 23 is hereby respectfully traversed on the same grounds as that of pending Claim 1.

With respect to the rejection of pending Claim 6 under 35 USC §102(e) as unpatentable over Saito (U.S. 6,100,570) in the outstanding official action, the official action fails to show in the Saito reference “a body region capable of externally fixing electric potential, wherein said body region is formed in contact with one of top and bottom surfaces of at least one of said plurality of device formation regions.” (see Claim 6, lines 11-13). The rejection of pending Claim 6 is therefore respectfully traversed.

For example, as shown in Figs. 41 and 42 illustrating the structure according to the sixth preferred embodiment, the connection region 80 that is to become a body region is formed on the upper parts of the buried oxide film 2, and a part of the connection region 80 is in contact with the bottom surface of the end portions of the SOI layer 3 which is a device

formation region (including drain region 5 and channel formation region 7), thereby maintaining electric connection.

On the other hand, Saito fails to disclose even a basic feature of a body region fixing the electric potential of an SOI layer. No equivalent structure is found in any of the sections of Saito pointed out in the office action with respect to the rejection of Claim 6, nor is any equivalent structure shown anywhere in the Saito reference for the purpose of externally fixing the potential of the SOI layer. The Office Action fails to point out what structure in Saito might be held to be equivalent to the body region. Therefore Saito clearly fails to disclose or suggest the body region recited in pending Claim 6 of the present invention with the above-mentioned characteristics.

Therefore the present invention as recited in pending Claim 6 is not anticipated by Saito and is further patentable over Saito. In light of the above discussion, we respectfully submit that the rejection of pending Claim 6 under 35 USC §102(e) as unpatentable over Saito be withdrawn.

Since Claim 1 and therefore all of its dependent claims (i.e. pending Claims 1-5 and 7-22) also include a limitation of "a body region provided in said SOI layer capable of externally fixing electric potential" (see Claim 1, lines 11 and 12), Claims 1-5 and 7-22 are also respectfully traversed on the additional ground Claim 6 is traversed.

Consequently, in light of the above discussion, the present application is believed to be in condition for allowance and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



Gregory J. Maier
Registration No. 25,599
Surinder Sachar
Registration No. 34,423
Attorneys of Record



22850

(703) 413-3000 Phone
(703) 413-2220 Fax

GJM/SNS/ALP:pch
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